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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,945	03/19/2004	Curtis R. Priem	NVDA P000455	9182
26291	7590	09/20/2006	EXAMINER	
PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702			CLEARY, THOMAS J	
			ART UNIT	PAPER NUMBER
			2111	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/804,945	Applicant(s) PRIEM, CURTIS R.	
	Examiner Thomas J. Cleary	Art Unit 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20040319</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Number 6,085,215 to Ramakrishnan et al. ("Ramakrishnan").

3. In reference to Claim 1, Ramakrishnan discloses receiving a latency associated with a thread; and scheduling the thread in accordance with said latency information (See Column 10 Lines 48-64).

4. In reference to Claim 2, Ramakrishnan discloses the limitations as applied to Claim 1 above. Ramakrishnan further discloses that said latency information is associated with an interrupt and said scheduled thread is for servicing said interrupt (See Column 10 Lines 34-36).

5. In reference to Claim 3, Ramakrishnan discloses the limitations as applied to Claim 2 above. Ramakrishnan further discloses that said latency information is representative of real time units (See Column 10 Lines 55-57).

6. In reference to Claim 4, Ramakrishnan discloses the limitations as applied to Claim 3 above. Ramakrishnan further discloses that said latency information represents a time duration that is necessary to service the thread (See Column 10 Lines 55-57).

7. In reference to Claim 5, Ramakrishnan discloses the limitations as applied to Claim 3 above. Ramakrishnan further discloses that said latency information represents a time at which said scheduled thread will be processed (See Column 10 Lines 58-60).

8. In reference to Claim 6, Ramakrishnan discloses the limitations as applied to Claim 3 above. Ramakrishnan further discloses that said latency information represents a time duration that is necessary to setup the thread (See Column 10 Lines 55-57).

9. In reference to Claim 7, Ramakrishnan discloses the limitations as applied to Claim 3 above. Ramakrishnan further discloses that said latency information is dependant on a hardware constraint (See Column 11 Lines 24-47 and Column 12 Lines 43-55).

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10. In reference to Claim 8, Ramakrishnan discloses the limitations as applied to Claim 3 above. Ramakrishnan further discloses that said latency information is provided by a device driver (See Column 12 Lines 43-55).

11. Claims 9 and 16 recite limitations which are substantially equivalent to those of Claim 2 and are rejected under similar reasoning.

12. Claim 10 recites limitations which are substantially equivalent to those of Claim 3 and is rejected under similar reasoning.

13. Claim 11 recites limitations which are substantially equivalent to those of Claim 7 and is rejected under similar reasoning.

14. In reference to Claim 12, Ramakrishnan discloses the limitations as applied to Claim 11 above. Ramakrishnan further discloses that said hardware constraint is a size of a buffer (See Column 11 Lines 24-47).

15. In reference to Claim 13, Ramakrishnan discloses the limitations as applied to Claim 11 above. Ramakrishnan further discloses that said hardware constraint is a fullness of a buffer (See Column 11 Lines 24-47).

16. In reference to Claim 14, Ramakrishnan discloses the limitations as applied to Claim 11 above. Ramakrishnan further discloses that said hardware constraint is dynamically defined (See Column 11 Lines 41-42 and Column 12 Lines 46-49).

17. Claim 15 recites limitations which are substantially equivalent to those of Claim 8 and is rejected under similar reasoning.

18. In reference to Claim 17, Ramakrishnan discloses the limitations as applied to Claim 16 above. Ramakrishnan further discloses toggling an interrupt line (See Column 10 Lines 31-47).

19. In reference to Claim 18, Ramakrishnan discloses the limitations as applied to Claim 16 above. Ramakrishnan further discloses determining the thread should be activated; and activating the thread for processing (See Column 4 Lines 16-32).

20. In reference to Claim 19, Ramakrishnan discloses the limitations as applied to Claim 16 above. Ramakrishnan further discloses that the scheduling includes organizing any pending threads and the thread responsive to the latency value and any latency values associated with the pending threads (See Column 5 Lines 54-67).

21. In reference to Claim 20, Ramakrishnan discloses the limitations as applied to Claim 16 above. Ramakrishnan further discloses that said latency information

represents a time duration that is used to determine when the thread will be activated for processing (See Column 10 Lines 58-60).

22. Claims 1-3, 5, 9, 10, and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Number 5,828,881 to Wang ("Wang").

23. In reference to Claim 1, Wang discloses receiving a latency associated with a thread; and scheduling the thread in accordance with said latency information (See Column 9 Line 57 - Column 10 Line 11).

24. In reference to Claim 2, Wang discloses the limitations as applied to Claim 1 above. Wang further discloses that said latency information is associated with an interrupt and said scheduled thread is for servicing said interrupt (See Column 10 Lines 5-11).

25. Claims 9 and 16 recite limitations which are substantially equivalent to those of Claim 2 and are rejected under similar reasoning.

26. In reference to Claim 3, Wang discloses the limitations as applied to Claim 2 above. Wang further discloses that said latency information is representative of real time units (See Column 1 Lines 22-37 and Column 10 Lines 3-5).

27. In reference to Claim 5, Wang discloses the limitations as applied to Claim 3 above. Wang further discloses that said latency information represents a time at which said scheduled thread will be processed (See Column 10 Lines 3-5).

28. Claim 10 recites limitations which are substantially equivalent to those of Claim 3 and is rejected under similar reasoning.

29. In reference to Claim 17, Wang discloses the limitations as applied to Claim 16 above. Wang further discloses toggling an interrupt line (See Column 10 Lines 6-8).

30. In reference to Claim 18, Wang discloses the limitations as applied to Claim 16 above. Wang further discloses determining the thread should be activated; and activating the thread for processing (See Column 9 Lines 1-15).

31. In reference to Claim 19, Wang discloses the limitations as applied to Claim 16 above. Wang further discloses that the scheduling includes organizing any pending threads and the thread responsive to the latency value and any latency values associated with the pending threads (See Column 7 Lines 32-43).

32. In reference to Claim 20, Wang discloses the limitations as applied to Claim 16 above. Wang further discloses that said latency information represents a time duration

that is used to determine when the thread will be activated for processing (See Column 7 Lines 32-43 and Column 9 Lines 1-15).

Claim Rejections - 35 USC § 112

33. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the Applicant regards as his invention.

34. Claims 3-8, 10, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

35. Claims 3 and 10 recite the limitation "real time units". It is unclear how real time units differ from regular time units, as any measurement of time is through a real time unit.

36. Claim 19 recites the limitation "organizing any pending threads and the thread responsive to the latency value and any latency values associated with the pending threads". It is unclear how this is accomplished, as the third item in the list (latency values associated with pending threads) is of a different type (a time unit) than the first (pending threads) and second items (thread responsive to the latency value), which are both types of threads.

Conclusion

37. The following prior art made of record and not relied upon is considered pertinent to Applicant's disclosure: US Patent Number 5,761,515 to Barton, III et al. (See Column 3 Line 54 – Column 4 Line 11); US Patent Number 5,179,702 to Spix et al. (See Column 37 Line 65 – Column 38 Line 35); and US Patent Number 5,974,438 to Neufeld (See Column 9 Lines 1-12), all of which disclose scheduling threads based on their latency.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Thomas J. Cleary whose telephone number is 571-272-3624. The Examiner can normally be reached on Monday-Thursday (7-3), Alt. Fridays (7-2).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark Rinehart can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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